

# Galileo's Jupiter findings highlight 27th lunar conference

By Eileen Hawley

Images and data gathered during the Galileo spacecraft's investigation of Jupiter will be one of the highlights of the 27th annual Lunar and Planetary Science Conference to be held March 18-22 at the Gilruth Center.

Once again, international experts in the fields of meteorites, astronomy, lunar geology and geochemistry will meet for five days of presentations and discussions, including a special plenary session on Space Science Program featuring Associate Administrator for Space Science, Wesley Huntress.

Conference presentations begin at 8:30 a.m. March 18 with "Outer Planet Satellites," "Ordinary Chondrites," and "Martian Atmospheric and Fluvial Processes."

At 1:30 p.m. the Harold Masursky Lecture

will be given by Andy Ingersoll discussing "Probing Questions About Jupiter." Immediately before the lecture, the 1995 Stephen E. Dworkin Student Paper Award winners will be honored. The 2:30 p.m. presentations include: "Lunar Basins: Theory, Observations and Experiments," "Stardust," "Galileo Mission to Jupiter—Results from Encounter," and "Reflectance Theory/Space Weathering Examples from the Moon."

Day two will begin at 8:30 a.m. March 19 with "The Lunar Highlands: Macro to Micro," "CAIs and Carbonaceous Chondrites," and "Mars: Volcanic, Tectonic Processes." At 1:30 p.m. "Mare Basalts: Generation, Emplacement, Composition, and Distribution," "Comets and Asteroids," "Metal-rich Meteorites," and "Mars Deep Interior," will be discussed.

At 3 p.m. discussions will focus on "Planetary Interior Processes."

At 8:30 a.m. March 20 discussions will begin with "Remote Sensing of the Moon and Mercury," "Shergottites: Crystallization, Weathering and Ejection," "Terrestrial Impact Structures, Tektites and Spherules," and "From Small to Smaller." At 1:30 p.m., Huntress will be joined by H. C. Brinton, T. V. Johnson, and A. F. Cheng for "NASA Space Science Program." Presentations include "Space Science Program" by Huntress; "Planetary Research and Analysis" by Brinton; "Galileo Mission" by Johnson; and "Near-Earth Asteroid Rendezvous" by Cheng. Presentations resume at 2:30 p.m. with "Mars: Mineral Spectroscopy and SNC Mineralogy," "From Stars to Solar Nebula," "Impact

Materials and Effects," and "Newest Lunar Meteorites." At 3:45 p.m. discussion will focus on "Solar Protons and Rare Gases."

At 8:30 a.m. March 21, early morning topics include "Resurfacing and Tectonic History of Venus;" "Meteorites: Martian;" and "Impact Story-Mechanics, Atmospheres and World Destruction." At 1:30 p.m. "Venus Volcanism and Tectonism;" "Chondrules in Ordinary Chondrites;" and "K/T Impact and Impact Vaporization," will be discussed.

The final day of the conference highlights "Origins: From Stellar Death to Lunar Birth;" "Achondrites;" and "Future Planetary Missions: Explorations in Progress," at 8:30 a.m. March 22. In addition scientists will participate in poster sessions set for 6:30-9:30 p.m. March 19 and 21 at the Lunar and Planetary Institute.

## Boeing sub earns award

Dynacs Engineering Corp., a small disadvantage business, has been selected as the Small Business Administration's 1995 Regional Subcontractor of the Year.

Dynacs, a subcontractor to Boeing Defense and Space Group, provides various system engineering support on the International Space Station for Russian hardware integration including, subsystem architecture, vehicle effectiveness and international partner coordination.

"Dynacs is a world-class leader among small businesses," said Doug Stone, Boeing Space Station's vice president. "They consistently provide superior engineering services and products while reducing costs."

Dynacs received NASA's Commitment to Excellence Award in 1995 and has been nominated as Boeing's Minority Contractor of the Year.

"We are very appreciative of the recognition," said Jayant Ramakrishnan, Dynacs Houston Operations director. "Our mission is to provide outstanding performance and customer satisfaction above and beyond the call of duty."

## NASA renames x-ray explorer

NASA has named the X-ray Timing Explorer, placed into orbit in December 1995, in honor of a pioneer in the field of X-ray astronomy, Bruno Rossi.

The new official title of the 6,700-pound observatory is the Bruno Rossi X-ray Timing Explorer. The RXTE is currently in orbit and studying stellar black holes, neutron stars and quasars.

Professor Rossi and his colleagues discovered the first non-solar source of X-rays in a dramatic rocket flight in 1962. This source, Scorpius X-1, was the first of many collapsed stars that also are a key topic of study for the RXTE. Rossi was a pioneer in two separate fields of observational space astrophysics: X-ray astronomy and space plasma physics. He was the co-recipient of the prestigious Wolf Prize in Physics in 1987. The Bruno Rossi Prize, awarded annually by the American Astronomical Society to a top astrophysicist for achievements in the field, is named in his honor.

## New chairman supports space station efforts

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is a Congress that went from two years ago closely passing space station by one vote to 290 votes," Stockman agreed. "The same Congress and Jim's leadership put in a seven-year authorization in the House. Your roller coaster ride with the frustration, except for appropriations, is a thing of the past."

Sensenbrenner is expected to take over the chairmanship of the House committee when the current chairman retires.



JSC photo by Benny Benevides

**HAMMER AWARD—Bob Stone, right, project director of the National Performance Review presents Vice President Al Gore's Hammer Award to from right Joe Fries, deputy manager of the White Sands Test Facilities, Jim Mager, deputy program manager for AlliedSignal at WSTF and Ben Boykin, AlliedSignal's program manager. The award was presented Monday to the WSTF team at the Quality in the Space and Defense Industry conference at South Shore Harbour Resort and Conference Center.**

## Career Plus+ briefing today in Bldg. 7A

Employees interested in teaching at the U.S. Naval Academy may be able to do so through the new Careers Plus+, Partners in Education Program.

All interested JSC civil servants are invited to attend a briefing by Professor Saarlal, chairman of the Naval Academy's Aerospace Depart., at 1:30 p.m., today in Bldg. 7A, Rm. 141. Saarlal will provide a 20-30 minute overview of the Academy and will be available

to answer questions about teaching opportunities.

Participants who elect to participate in the Partners in Education program will: voluntarily retire from the civil service; be hired back as reemployed annuitants; and be paid for up to 1,040 hours per year for two years.

For more information about the program, contact the Human Resources Management Branch at x35266.

## Scientists laud STS-76 crew work

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to collect science that we ought to stay up here as long as we can to do the best work we can do," Allen said. "The microgravity payloads really benefit from having more time in space."

Researchers at the Rensselaer Polytechnic Institute in Troy, N.Y., including principle investigator Martin Glicksman, had the distinction of being the first university to send a command to an on-board experiment, the Isothermal Dendritic Growth Experiment, or IDGE, in *Columbia's* cargo bay. That step began a third science phase for the dendrites research team, to continue studying how metal alloys solidify free from the convective flows caused by Earth's gravity.

"This is the first time a principal investigator has commanded a microgravity science instrument on the space shuttle from his home institution—a U.S. college campus," United States Microgravity Payload Program Scientist Steve Davison, said Tuesday.

Throughout the mission, the Rensselaer Operations Control Center crew has been working hand-in-hand with its counterparts at the Marshall Space Flight Center to analyze data produced by the IDGE experiment. Now, with RPI in the driver's seat, the results of the first growth cycle became clear, as the first dendrite of this operational phase emerged in record time. The characteristics of these microscopic crystals help determine the strength and flexibility of products such as automobile engine blocks and jet engine turbine blades. The ultimate goal of the IDGE investigation is to improve ground-based materials processing for metals ranging from aluminum to steel.

Wednesday, the crew initiated a series of small thruster firings that put *Columbia* into a subtle 360-degree rotation to allow experimenters the opportunity to gather data into how movements such as these affect samples being grown in the quiet, stable environment of space.

Another collaborative effort is the Advanced Automated Directional Solidification Furnace investigation. AADSF brings together a sophisticated furnace for growing semiconductor materials and a science team under the direc-

tion of Principal Investigator Archie Frupp of Langley Research Center.

Three delicate lead-tin-telluride crystals were successfully grown by AADSF during this mission are slated for microscopic study when the samples return to Earth. Referring to the detailed science support, Frupp commented that his experiment performed "flawlessly."

"The pilot and crew put the shuttle in the proper attitudes required for sample processing and held them there," Frupp said.

Monday afternoon, the high-temperature AADSF furnace was cooled and prepared for landing today.

The Critical Fluid Light Scattering Experiment, known as Zeno, under the direction of Robert Gammon of the University of Maryland in College Park, the Zeno team includes members of Lewis Research Center and Ball Aerospace.

As his research team moves to within millionths of a degree of the point where the xenon sample will exist simultaneously as a liquid and a gas, known as the critical point, The basic science questions that the Zeno investigation seeks to answer could improve chemical engineering processes ranging from applying special paints to handling toxic waste.

The MEPHISTO investigation brings together nations working toward a common goal, with their French Space Agency center in Toulouse, France, and their NASA teams at Marshall and the University of Alabama in Huntsville all gathering data about crystal solidification.

"Most of the materials we use are formed by solidification," explained MEPHISTO principal investigator Jean-Jacques Favier. "This is true for semiconductors as well as high-strength alloys." The Information Age has linked people from around the world, and research conducted by the international MEPHISTO team could lead to faster computers and more versatile metals.

Landing was scheduled for 6:19 a.m. CST today at the Kennedy Space Center in Florida. *Columbia* flew over KSC Wednesday morning, allowing Allen and STS-76 Commander Kevin Chilton to talk while the Atlantis crew practiced its launch countdown at Launch Pad 39-B.

## JSC employee ready to carry Olympic torch

Bill West of Rockwell International, who supports space station flight control in the Mission Operations Systems Division recently was selected to carry the Olympic torch the week of May 20 as it makes its way to Atlanta via the Houston area.

United Way selected 5,000 people nationwide to carry the torch for 1 kilometer. The local United Way filled 54 of those slots, including West. More than 10,000 people across the U. S. will have the opportunity to be part of the 1996 Summer Olympics.

West was nominated by Henry Lamaze, a Rockwell supervisor in the Space Flight Training Division, because of his many voluntary contributions.

West was given an opportunity to fly a personal item on STS-60 and gave his slot to students at Smith Elementary School in Aurora, Ill.,—West's hometown. The students were fingerprinted on a poster that flew on *Discovery* and West returned the flight item personally.

West also is a volunteer firefighter for Webster taking five to six calls a week after work hours. West noted that the majority of firefighting and emergency personnel throughout Texas are volunteer so he will dedicate his Olympic moment to those individuals.

"I feel honored to be chosen as one of the 54 to carry the torch in Houston, West said. "I will dedicate my one kilometer to all the firefighter and emergency response personnel in Texas."

West also volunteers his time in the national program HOST. He spent two hours a week last year at Pasadena Independent School District's Sparks Elementary helping third grade students to learn read.

Once the torch gets closer to Houston, West will have a firm time, date and location of his history-making opportunity.



West

## Atlantis rolls to pad, work on schedule

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Godwin or Clifford should they become detached from their tethers.

"We don't anticipate any problems with the EVA," Godwin said. "We have had some good training in Houston. For both Rich and myself, it's our first time out doing a real EVA so we expect a little orientation time getting used to the lack of water drag that we have in the water tank."

*Atlantis* was rolled to Launch Pad 39B on Feb. 28 in preparation for launch. Work is on schedule as engineers have completed installation and established electrical connections of the Spacehab payload in *Atlantis'* cargo bay. Main engine flight readiness tests were completed last week and engineers were conducting the helium signature leak test at mid-week.

Mission managers conducted a launch readiness review Wednesday and are expected to establish a firm launch date Monday in the Flight Readiness Review. Engineers at Marshall Space Flight Center are inspecting the STS-75 solid rocket motor nozzle-case joints after gas paths were discovered through wiper O-rings on both motors. Shuttle managers will review the inspection results before deciding whether there are any implications for the STS-76 launch.

Other briefings, including the crew news conference will be conducted Tuesday. A Phase 1 briefing with Frank Culbertson, acting director of the Phase 1 Program, Valery Ryumin, Phase 1 director of RSC Energia and John Uri, Mir 21 mission scientist will be held at 8 a. m.; a Mission Overview with Lead Flight Director Phil Engelauf will take place at 9 a.m.; the role of the Spacehab will be discussed at 10 a.m.; a space walk briefing will be held at 11:30 a.m. and scientists at NASA's Jet Propulsion Laboratory will discuss the KidSat payload at 12:30 p.m. The crew preflight news conference at 1 p.m. will round out the day's events.

## Correction

The March 1 issue of the Space News Roundup incorrectly reported that Astronaut Brian Duffy had been named associate director for the center. Duffy has been named assistant director.